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UNITED STATES DISTRICT COURT

CENTRAL DISTRICT OF CALIFORNIA, WESTERN DIVISION

CLEAN AIR ENGINEERING-MARITIME, INC., a California corporation,

Plaintiff and Counter-defendant,

v.

ADVANCED CLEANUP TECHNOLOGIES, INC., and ADVANCED ENVIRONMENTAL GROUP, LLC [sic], a California corporation,

Defendants and Counter-claimants.

Case No. 2:12-cv-08669-JAK-VBK

MEMORANDUM OF CONTENTIONS OF FACT AND LAW OF PLAINTIFF AND COUNTER-DEFENDANT CLEAN AIR ENGINEERING- MARITIME, INC. [MEMO OF CONTENTIONS OF FACT AND LAW]

Date: November 18, 2014
Time: 8:30 a.m.
Place: Roybal 750 – 7th Floor
Judge: John A. Kronstadt

[Local Rule 16-4]

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MEMORANDUM OF CONTENTIONS OF FACT & LAW

Pursuant to Local Rule 16-4 and the Court's Standing Order Re Jury/Court Trial, plaintiff and counter-defendant Clean Air Engineering-Maritime, Inc. ("CAEMI") submits the following memorandum of contentions of fact and law in advance of the November 18, 2014 trial against defendants and counterclaimants Advanced Cleanup Technologies, Inc., and Advanced Environmental Group, LLC (jointly, "ACTI").

I. INTRODUCTION

This bifurcated bench trial concerns a single issue: the invalidity of claim 19 of ACTI's Patent No. 7,258,710 (the "'710 Patent"), which describes a system for capturing exhaust emitted from ship engines. The Court already determined and adjudged that CAEMI's products do not infringe the other claims asserted under the '710 Patent or U.S. Patent No. 8,327,631 (the "'631 Patent"), which describes a system for processing ship engine exhaust. (Dkt. No. 120 at 13, 27.) The Court further determined that the prior art, U.S. Patent No. 6,185,934 ("Teboul"), anticipated all elements of claim 19 as a matter of law, but whether Teboul's disclosure of emissions control for a "boat" anticipates claim 19's reference to an "ocean going vessel" presents a question of fact. (Dkt. No. 120 at 19.) As such, the only issues remaining for trial are whether claim 19 is invalid in light of Teboul, and whether the accused products infringe claim 19 (fourth test, day two, through ninth test), if valid. (*Id.* at 1.) The Court ordered the issues bifurcated, with this initial trial directed only to invalidity.[1]

Invalidity depends on whether claim 19 is anticipated and/or obvious under Teboul; either finding is sufficient to invalidate the patent. *Anticipation*, in turn, depends on whether a person of ordinary skill in the art would envisage an 'ocean going vessel,' as described in claim 19, when considering a 'boat' as disclosed by

[1] The parties stipulated to a bench trial on June 10, 2014. (Dkt. No. 106.)

Teboul, such that the genus 'boat' anticipates the species, 'ocean going vessel.' *Obviousness* turns on whether the differences between Teboul's 'boat' and claim 19's 'ocean going vessel,' as perceived by a person of ordinary skill in the art, are obvious. Trial will show that the genus anticipates the species; that the difference between claim 19 (ocean going vessel) and Teboul (boat) is merely one of size; and that the distinction between a boat and ocean going vessel is not critical to the alleged invention of claim 19. Claim 19 and the '710 Patent are thus anticipated, obvious, and invalid, and judgment should issue in the form of a declaration of invalidity in CAEMI's favor.

II. CLAIMS AND DEFENSES

Claim 1: Claim 19 is invalid as anticipated.

Standards for Establishing Invalidity By Anticipation

"A person shall be entitled to a patent unless … the claimed invention was patented, described in a printed publication, or in public use, on sale, or otherwise available to the public [at least one year] before the effective filing date of the claimed invention." 35 U.S.C. § 102(a)-(b).

"[S]pecies are unpatentable when prior art disclosures describe the genus containing those species such that a person of ordinary skill in the art would be able to envision every member of the class." *Abbvie Inc. v. Mathilda & Terence Kennedy Inst. of Rheumatology Trust*, 764 F.3d 1366, 1379 (Fed. Cir. 2014).

Claim 2: Claim 19 is invalid as obvious.

Standards for Establishing Invalidity By Obviousness

"A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains." 35 U.S.C. § 103.

"[T]o invalidate a patent as obvious," a court must find "that a skilled artisan would have been motivated to combine the teaching of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so.'" *OSRAM Sylvania, Inc. v. Am. Induction Techs, Inc.*, 701 F.3d 698, 706 (Fed. Cir. 2012).

"[C]riticality … turns on whether the claim is an advance over products and processes previously known and sufficiently distinctive to warrant a patent monopoly." *Cal. Research Corp. v. Ladd*, 356 F.2d 813, 820 (D.C. Cir. 1966).

III. CONTENTIONS OF FACT

A. The Patent-In-Suit.

The '710 Patent is directed to a maritime emissions control system, which captures exhaust emitted from an ocean going vessel ("OGV") in a bonnet and transmits the exhaust through a duct to an emissions control unit on a separate ship (an "unpowered seagoing barge" or "USB") as the OGV pulls into port. (Ex. 1.) Claim 19, the only remaining claim at issue, provides as follows:

> 19. A method for emissions control, the method comprising:
>
> securing a bonnet over a stack of an **Ocean Going Vessel (OGV)** to capture exhaust;
>
> drawing the exhaust captured by the bonnet through a duct to an emissions control unit; and
>
> processing the exhaust by the emissions control unit.[2]

(*Id.*, 8:21-28 (emphasis added); Stipulated Fact ["SF"] ¶ 5.) The U.S. Patent and Trademark Office ("PTO") issued and assigned the '710 Patent to ACTI on August 21, 2007, following an application filed April 29, 2004. (SF ¶¶ 1-2.)

[2] The Court construed only one term in claim 19, which is not material to the issues on trial: "stack," construed as "a structure extending from the ship that emits exhaust." (Dkt. No. 65 at 8.)

B. The Prior Art.

On February 13, 2001, the PTO issued Teboul, a patent—like the '710 Patent—for emissions control systems. (SF ¶ 3.) Specifically, Teboul is directed to "the elimination of polluting components, or of solid, liquid, or gaseous impurities, from the exhaust gasses of an internal combustion engine. (Ex. 2, 1:8-11.) Teboul discloses emissions control for "**any motor vehicle whatsoever**," including a "**boat**," and is expressly "adaptable to any motor vehicle." (*Id.* 1:62-63, 5:17-18 (emphasis added); SF ¶ 6.) The parties agree that Teboul is prior art to the '710 Patent. (SF ¶ 4.) The Court has found that "there is no structural distinction" between claim 19 and Teboul, "so long as 'boat' includes an 'Ocean Going Vessel.'" (Dkt. No. 120 at 14.)

C. Person of Ordinary Skill In The Art.

Based on his education and experience as a naval architect, as a professor of graduate and undergraduate students, and as an advisor to Master's and Ph.D. candidates in Mechanical Engineering, CAEMI's expert, Dr. Marko Princevac, Ph.D., has testified and opined that a person of ordinary skill in the art relating to the '710 Patent is one who would have at least a B.S. degree in mechanical or environmental engineering, or an equivalent formal education, and would have at least two years of work or research experience involving diesel emissions or related areas. (Princevac Direct Test. Decl. ¶ 33.) One of ordinary skill in the art could also have a Master's degree in one of these same fields and at least one year of relevant work or research experience. (*Id.*)

D. Dr. Princevac's Qualifications.

Dr. Princevac is a tenured Professor in Mechanical Engineering at the Bourns College of Engineering at the University of California, Riverside, where he teaches classes dealing with air pollution. (Princevac Direct Test. Decl. ¶¶ 1-3, 10.) Historically, Dr. Princevac's research has focused on fundamental and applied fluid mechanics, in particular, the application of fundamental turbulence concepts

to studies in environmental flows. (*Id.* ¶ 7.) Dr. Princevac's early research focused on "engineering flows," specifically ships' propulsion and resistance. (*Id.* ¶ 8.) His current research focuses on urban flows, specifically, on urban dispersion (pollutants or toxic releases, industrial disasters or terrorist attacks) and parameterizations of turbulence within urban canyons. (*Id.* ¶ 9.) Many of his recent projects and field experiments involve air pollution and the study of emissions.[3] (*Id.* ¶ 10.)

Dr. Princevac received a Bachelor of Science in Mechanical Engineering and Naval Architecture from the University of Belgrade in Serbia in 1997 and a Ph.D. in Mechanical Engineering from Arizona State University in 2003. (*Id.* ¶ 2.) As a naval architecture major, Dr. Princevac learned about boat building, including managing boat exhaust. (*Id.* ¶ 11.) He began teaching at UC Riverside in 2004, gained tenure in 2010, and currently serves on the doctoral qualifying committee for doctoral candidates, including two candidates who are using data derived from Dr. Princevac's tests on tugboat emissions in their doctoral work. (*Id.* ¶¶ 4, 12.) Dr. Princevac is a member of the Society of Naval Architects and Marine Engineers (SNAME), the American Meteorological Society (AMS), and the American Society of Mechanical Engineers (ASME). (*Id.* ¶ 13.) Dr. Princevac also owns a sailboat with a diesel engine, which he sails several times a month on average. (*Id.* ¶ 11.)

In sum, Dr. Princevac has studied and worked extensively in the fields of air pollution, environmental engineering, naval architecture, and mechanical

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[3] For example, Dr. Princevac recently completed a project involving the impact of hydrogen injection in marine diesel engines for the California Air Resources Board (CARB), which led to an article in the *International Journal of Hydrogen Energy* titled, "Effect of Hydrogen Addition on Criteria and Greenhouse Gas Emissions for Marine Diesel Engine." (*Id.* ¶ 11.) In addition, Dr. Princevac has tested tugboat emissions from hybrid (diesel-electric) internal combustion engines for tugboats in the Port of Los Angeles. (*Id.* ¶ 12.)

engineering for the past seventeen years. (*Id.* ¶ 6.) As a result, he has extensive knowledge of diesel and internal combustion engines, their emissions, and control of those emissions, from cars, boats, and other sources. (*Id.*) As will be shown, Dr. Princevac is qualified to testify as a person of ordinary skill in the art surrounding the '710 Patent, and his testimony, opinions, and other evidence confirm that Claim 19 of the patent is invalid.

IV. CONTENTIONS OF LAW

A. Teboul Anticipates Claim 19.

35 U.S.C. § 102(a), titled "Novelty," prohibits the patenting of claimed inventions already described in prior art. Under § 102, "[a] patent is invalid for anticipation when the same device or method, having all of the elements and limitations contained in the claims, is described in a single prior art reference." *ATD Corp. v. Lydall, Inc.*, 159 F.3d 534, 545 (Fed. Cir. 1998). As the Court noted in its summary judgment order (Dkt. No. 120 at 13), "an earlier disclosed genus may, in certain circumstances, anticipate a later species" of that genus. *OSRAM Sylvania, Inc. v. Am. Induction Techs, Inc.*, 701 F.3d 698, 705 (Fed. Cir. 2012). The inquiry is essentially factual and depends on the factual aspects of the specific disclosure and the particular products at issue." *Sanofi-Syntheiabo v. Opotex*, 550 F.3d 1075, 1083 (Fed Cir. 2008). The Federal Circuit recently articulated the standard as follows: "species are unpatentable when prior art disclosures describe the genus containing those species such that a person of ordinary skill in the art would be able to envision every member of the class."[4] *Abbvie Inc. v. Mathilda &*

[4] Prior recitations of the genus anticipation standard have referenced the relative size of the genus. *See, e.g., Wm. Wrigley Jr. Co. v. Cadbury Adams USA LLC*, 683 F.3d 1356, 1361 (Fed. Cir. 2012) ("issue of anticipation turns on whether the genus was of such a defined and limited class that one of ordinary skill in the art could 'at once envisage' each member of the genus"). But the Federal Circuit recently "clarified that the outcome of [a] case need not rest heavily on the size of the genus disclosed by a prior art reference," so long as "one of ordinary skill in the art would have favorably considered the species patent at issue." *Abbvie*, 764 (cont'd)

Terence Kennedy Inst. of Rheumatology Trust, 764 F.3d 1366, 1379 (Fed. Cir. 2014). Clear and convincing evidence demonstrates that a person of ordinary skill in the art, such as Dr. Princevac, would envision an OGV when reviewing Teboul's disclosure of a boat.[5]

1. Dr. Princevac is a Person of Ordinary Skill in the Art.

Courts properly consider "the testimony of an expert witness" in "determining the knowledge that a person of ordinary skill in the art would have possessed at a given time." *Alza Corp. v. Mylan Labs., Inc.*, 464 F.3d 1286, 1294 (Fed. Cir. 2006). Dr. Princevac has opined that one skilled in the art of the '710 Patent would have at least a B.S. in mechanical or environmental engineering, with at least two years work or research in diesel emissions or related areas, or a Master's degree in one of these same fields and at least one year of relevant research or work. (Princevac Direct Test. Decl. ¶ 33.) This definition comports with definitions adopted by courts in similar contexts. *See, e.g.*, *MDS Assocs., Ltd. P'ship v. United States*, 37 Fed. Cl. 611, 625 (Fed. Cl. 1997) *aff'd*, 135 F.3d 778 (Fed. Cir. 1998) ("one of ordinary skill in the art of automated collision avoidance radar systems … would have been a marine collision avoidance radar design engineer with the equivalent of at least a university level bachelor of science degree in electrical engineering and the equivalent of three years experience in the field"); *Broussard v. Go-Devil Mfg. Co. of La.*, No. 3:08-cv-00124, 2014 WL 3377708 at *13 (M.D. La. July 9, 2014) ("person of ordinary skill in the art with respect to [boat motor patents] would have an undergraduate education in mechanical engineering and some experience in marine propulsion systems" or "at least five years of experience with marine motors"); *Orthopedic Equip.*, 702 F.2d at 1009 (one skilled in the art of information processing systems hardware would

F.3d at 1379.

[5] Patent "invalidity must be proven by clear and convincing evidence." *OSRAM Sylvania*, 701 F.3d at 704.

have "rudimentary knowledge of electromechanical devices" and "be familiar with the workings of [such] hardware").

Dr. Princevac himself meets—indeed exceeds—these qualifications, having served as CAEMI's maritime emissions expert with over seventeen years of experience in the field. The term 'ordinary' skill does not disqualify experts—who may have more than ordinary skill—from testifying as to the scope of claims, including anticipation and obviousness. *Endress Hauser, Inc. v. Hawk Measurement Sys. Pty. Ltd.*, 122 F.3d 1040, 1042. "The 'person of ordinary skill in the art' is a theoretical construct, … not descriptive of some particular individual."[6] *Id.* (Fed. Cir. 1997). The Federal Circuit has rejected as "meritless" the objection that "a person of exceptional skill in the art [sh]ould be disqualified from testifying … because [he is] not ordinary enough." *Id.; see also 800 Adept, Inc. v. Murex Sec., Ltd.*, No. 6:02-cv-1354, 2006 WL 5249727 at *3 (M.D. Fla. Aug. 3, 2006) (overruling objections to testimony of expert as one ordinarily skilled in the art on issues of "anticipation, enablement and obviousness"). Here, Dr. Princevac's education and experience qualify him to testify as an expert ***and*** a person of ordinary skill in the art of maritime emissions. *See, e.g., Endress Hauser*, 122 F.3d at 1042 (expert's "substantial credentials as an electrical engineer" also qualified him to testify as one ordinarily skilled in the art regarding patent for ultrasonic level-measuring equipment).

By contrast, John Powell, inventor of the '710 Patent, may not be considered a person of ordinary skill in the art, for obvious reasons. *See Tyco Healthcare Grp., LP v. C.R. Bard, Inc.*, 818 F. Supp. 2d 777, 790 (D. Del. 2011) ("the inventor is not the hypothetical 'person of ordinary skill in the art' and his subjective beliefs regarding his invention do not bear upon what is actually disclosed by the patent"). As the Court correctly noted in the MSJ Order (Dkt. No. 120 at 16 n.3), the

[6] "This legal construct is akin to the 'reasonable person' used as a reference in negligence determinations." *In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998).

inventor's subjective intent is irrelevant in determining the scope and validity of claims. *See Solomon v. Kimberly-Clark Corp.*, 216 F.3d 1372, 1379 (Fed. Cir. 2000) ("what the patentee subjectively intended his claims to mean is largely irrelevant to the claim's objective meaning and scope"); *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 985 (Fed. Cir. 1995) *aff'd*, 517 U.S. 370 (1996) ("The subjective intent of the inventor when he used a particular term is of little or no probative weight in determining the scope of a claim."). "It is particularly inappropriate to consider inventor testimony obtained in the context of litigation in assessing validity," where the inventor is sure to be interested. *Solomon*, 216 F.3d at 1379. "Rather the focus is on the objective test of what one of ordinary skill in the art … would have understood the term to mean." *Markman*, 52 F.3d at 985. Indeed, "it is not unusual for there to be a significant difference between what an inventor thinks his patented invention is and what the ultimate scope of the claims is after allowance by the PTO." *Id.* Whatever Mr. Powell thinks he patented, a person of ordinary skill in the art would view the claim 19's OGV as an anticipated species and obvious iteration of Teboul's boat.

2. The Genus 'Boat' Anticipates the Species 'Ocean Going Vessel.'

"[N]ot every species of a patented genus is separately patentable." *Abbvie*, 764 F.3d at 1379. Where a "person of ordinary skill in the art would be able to envision every member of [a genus]," subsequent species claims are anticipated and invalid. *Id.* "[T]his skilled person [need] not at once define in his mind the formal boundaries of the class as [a court]" might do. *In re Petering*, 49 C.C.P.A. 993, 301 F.2d 676, 681 (1962); *accord Impax Labs., Inc. v. Aventis Pharm. Inc.*, 468 F.3d 1366, 1383 (Fed. Cir. 2006) (citing *Petering* with approval). He merely must envision the members of the genus, including the species at issue.

Dr. Princevac, when confronted with Teboul's disclosure of emissions control for "any motor vehicle whatsoever," including a "boat," envisioned an

OGV, among other things. (Princevac Direct Test. Decl. ¶¶ 21, 60; Ex. 12 at 39:12-40:2.) The rationale is straightforward: what distinguishes an OGV from other types of boats is that an OGV is "seaworthy," *i.e.*, capable of going over the open ocean. (Princevac Direct Test. Decl. ¶¶ 44, 51.) "[T]he primary difference is the 'strength' of the construction of the vessel": vessels designed to withstand the "high winds and high waves" of rough ocean waters must be of suitable durability. (*Id.* ¶¶ 44, 46.) "Importantly, it … is not the size, weight or propulsion mechanism of a vessel that qualifies a vessel to go out into the open ocean," nor the "amount of pollution generated." (*Id.* ¶¶ 47, 49-50) Many small vessels of small size and indeterminate propulsion and pollution are strong enough to brave the ocean. (*Id.*)

As Dr. Princevac has explained, "[t]here is nothing in Teboul that limited use of the [emissions] filtering device to vessels that are not seaworthy." (*Id.* ¶ 53.) To the contrary, "the manner in which Teboul explains that the filtering device can be used with 'any motor vehicle' would lead a person of ordinary skill in the art to understand that the filtering device could be used on either a strong vessel (boat that is an OGV) or a less strong vessel (boat that is not an OGV)." (*Id.*) Now and in 2004, one skilled in the art "would generally use the word "boat" to refer to both vessels that are seaworthy and those that are not seaworthy." (*Id.* ¶¶ 54-55.) This understanding is confirmed by the patents themselves: the '710 Patent specification specifically discloses that the emission control system may be used for "control of emissions from land based equipment," not just OGVs, (Ex. 1, 7:8-11), and Teboul cites Patent No. 4,338,784, which recites that "changes in the structure, including … sizes of the parts, can be made by those skilled in the art without departing from the invention." (Ex. 4, 17:57-61). (*See also* Princevac Direct Test. Decl. ¶¶ 56-57.)

The foregoing testimony and evidence is credible, clear, and convincing that Teboul's boat anticipates Claim 19's OGV. "[T]his is not the case where there are 'numerous parameters' to try," such as chemical compound combinations and

permutations. *Abbvie*, 764 F.3d at 1379. 'Boat' is not so complicated. The genus clearly includes the species OGV. *See, e.g., United States v. Costello*, 171 F. Supp. 10, 17 (S.D.N.Y. 1959) *aff'd*, 275 F.2d 355 (2d Cir. 1960) (witness "acquired a half dozen boats, including an ocean-going vessel"). And the terms are often used synonymously by persons of ordinary skill (Princevac Direct Test. Decl. ¶¶ 54-55) and by courts. *See, e.g., United States v. Cecil*, 836 F.2d 1431, 1456 (4th Cir. 1988) (treating terms "boat" and "ocean going vessel" synonymously in smuggling conspiracy case). Indeed, many years ago, while reciting that claims must deviate from the prior art in order to be patentable, the Supreme Court stated rhetorically: "Take a boat, for instance; must every species, from the ark downwards, be described?" *Evans v. Eaton*, 20 U.S. 356, 375 (1822). The answer was obviously no; otherwise, patents would grow even "more complex and voluminous" than they already are. *Id.*

That venerable teaching is instructive here. Teboul teaches an emissions control systems for all boats, including OGVs. To require Teboul to list every boat and motor vehicle, when the method applied equally to all, would have produced an overly and unnecessarily "complex and voluminous" patent. In *Abbvie*, for example, the patentee "argued that the [prior art] claim[ed] a 'broad genus' of methods for treating rheumatoid arthritis, whereas [his] patent claim[ed] a 'narrower species' of those treatment methods with unexpected results": those with active disease. *Abbvie*, 764 F.3d at 1371. Put another way, "[t]he genus claimed in the [prior art] (treating all patients in need thereof) [was] broader than the species claimed in the [patent in suit] (treating patients with 'active disease,' *i.e.*, particularly sick patients)." *Id.* at 1378. To the Federal Circuit, "it [was] clear that a reader of the [prior art] could have easily envisioned a species limited to sicker patients." *Id.* at 1379.

The same is true here. Dr. Princevac could and did envision an OGV when reading Teboul's disclosure of a boat. Other artisans of ordinary skill would have

done the same. (Princevac Direct Test. Decl. ¶¶ 28, 59.) Seaworthiness—not size, weight, propulsion, or pollution—determine whether a boat is an OGV; "Teboul makes no distinction to seaworthiness … and in fact discloses 'any motor vehicle[]'"; and Teboul and the '710 Patent both disclose that their physical components may be adjusted in size and still function. (*Id.*¶ 59.) Accordingly, the Court should find that Teboul anticipates claim 19 in its entirety, rendering the claim invalid. *See, e.g.*, *Abbvie*, 764 F.3d at 1379 ("district court was correct in concluding that the species of the … patent was not patentably distinct from the genus of the [prior art]").

B. Claim 19 Is Obvious.

Even if a prior art reference does not anticipate a claim under 35 U.S.C. § 102, it can still render the claim obvious and thus invalid under § 103. *See* 35 U.S.C. § 103 ("notwithstanding that the claimed invention is not identically disclosed as set forth in section 102 …"). "Obviousness is a question of law based on underlying factual findings," including "(1) the scope and content of the prior art; (2) the differences between the claims and the prior art; (3) the level of ordinary skill in the art.[7] *OSRAM Sylvania*, 701 F.3d at 706 (citing *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966)); *accord KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 399 (2007). Ultimately, "to invalidate a patent as obvious," a court must find "that a skilled artisan would have been motivated to combine the teaching of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so." *Id.* at 706.

A teaching, suggestion, or motivation to combine references, once necessary to prove obviousness, is no longer required under the recent Supreme Court

[7] Establishing the first three *Graham* factors established a *prima facie* case of obviousness, which the patentee may attempt to rebut with proof of secondary considerations such as the commercial success of the patent. *KSR*, 550 U.S. at 399.

decision in *KSR International v. Teleflex*. *KSR*, 550 U.S. at 401. Rather, the "combination of familiar elements according to known methods is likely to be obvious ***when it does no more than yield predictable results***." *Id*. (emphasis added.) "When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same [or different] field[s]." *Id*. To determine whether there is an apparent reason to combine known elements in the fashion claimed by the patent in suit, courts can look to a variety of factors, including "interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art…." *Id*. "[O]verall [the] obviousness inquiry must be expansive and flexible." *OSRAM Sylvania*, 701 F.3d at 707.

Combining Teboul's 'boat' teachings to an OGV is merely a matter of scaling up the prior art, which is obvious and non-inventive; and in any event, the OGV reference in claim 19 is not critical to the emission control systems' functioning.

1. The Only Difference Between Teboul's 'Boat' And Claim 19's 'OGV' Is Their Size.

The Court already determined that "there is no structural distinction" between claim 19 and Teboul, apart from the use of boat in the one and OGV in the other. (Dkt. No. 120 at 14.) ACTI has argued that this difference is patentably distinguishable because an OGV is "on a very different scale" than a boat. (Dkt. No. 99 at 21.) But "mere size is not ordinarily a matter of invention." *In re Yount*, 171 F.2d 317, 318 (C.C.P.A. 1948). More directly, the "mere scaling up of a prior art process capable of being scaled up … [does] not establish patentability." *In re Rinehart*, 531 F.2d 1048, 1053 (C.C.P.A. 1976); *see also Bristol-Myers Squibb Co. v. Teva Pharm. USA, Inc.*, 752 F.3d 967, 977 (Fed. Cir. 2014) ("While a 'marked superiority' in an expected property may be enough in some circumstances to

render a compound patentable, a 'mere difference in degree' is insufficient"); *Murray Co. of Tex. v. Cont'l Gin Co.*, 264 F.2d 65, 70 (5th Cir. 1959) ("mere enlargement is not invention").

Skilled artisans, such as Dr. Princevac, would understand that Teboul's emission control systems could be scaled up to fit an OGV or that the '710 Patent could be scaled down to fit smaller boats. (Princevac Direct Test. Decl. ¶ 58.) As discussed above, size does not determine whether a boat is an OGV; boats of many sizes can be seaworthy and ocean-going. Moreover, U.S. Patent No. 5,980,343 (the "'343 Patent"), cited on the face of the '710 Patent, discloses an exhaust system for marine vessels such as yachts and smaller boats.[8] (Ex. 5, 1:13-14.) The '343 Patent further discloses that, "[f]or different vessels and/or different engines, the size of the mufflers, number of seawater discharge openings and size of the skeg assemblies can be appropriately ***scaled up or down***. Such reasonable variations and modifications are possible within the spirit of the foregoing specification and drawings without departing from the scope of the invention." (*Id.*, 6:29-34 (emphasis added).)

Numerous other patents were publicly available in 2004 that also render Claim 19's OGV obvious over Teboul's boat: U.S. Patents Nos. 3,835,625 and 5,632,660 (Exs. 3, 6), relating to the reduction of pollutants on water vessels; U.S. Patent No. 5,967,063 (Ex. 7), relating to the reduction of pollutants on sea-going vessels; and U.S. Patents Nos. 6,395,047 and 6,983,757 (Exs. 8-9), relating to the reduction of pollutants on motor vehicles. (Princevac Direct Test. Decl. ¶¶ 73-79.) "[T]he Teboul reference alone would render the OGV of claim 19 obvious," as the systems described in Teboul can be scaled up or down, and the additional

[8] The '343 Patent is cited on the face of the '710 Patent and is, as such, intrinsic evidence to that patent. *See V-Formation, Inc. v. Benetton Grp. SpA*, 401 F.3d 1307, 1311 (Fed. Cir. 2005) (prior art reference listed "on the face of [a] patent … constitutes intrinsic evidence").

references only confirm that fact. (*Id.* ¶ 79.) One of ordinary skill, reading claim 19's reference to OGVs in the context of Teboul and many additional patents, would have been motivated to scale Teboul up or down to different size boats, including OGVs.

Claim 19 is thus obvious and unpatentable: "a mere change in size, proportion or degree of an element contained in the prior art …, no matter how desirable or useful, does not constitute a patentable invention." *Ward Mach. Co. v. Wm. C. Staley Mach. Corp.*, 409 F. Supp. 273, 281 (D. Md. 1976). The Court therefore should find that claim 19—which, if it differs from Teboul at all, differs only in size—is obvious and invalid. *See, e.g., Gardner v. TEC Sys., Inc.*, 725 F.2d 1338, 1346 (Fed. Cir. 1984) (no error in district court's conclusion that "dimensional limitations of [ink drying patent were] essentially meaningless" and unpatentable); *Ward Mach.*, 409 F. Supp. at 281 ("enlargement of … vacuum box" in suction table system invalid as obvious); *In re Rose*, 220 F.2d at 463 (fact that lumber packing patent was "of appreciable size and weight so as to require handling by a lift truck" whereas prior art disclosed packages that could be "lifted by hand" was not "patentably significant"); *Powers-Kennedy Contracting Corp. v. Concrete Mixing & Conveying Co.*, 282 U.S. 175, 184 (1930) (increasing size of pipes and parts in grout transport mechanism so as to transport concrete was not novel or patentable).

2. Reference to an 'Ocean Going Vessel' is Not Critical to Claim 19.

For similar reasons, an OGV is not critical to the systems described in claim 19. *See Cal. Research Corp. v. Ladd*, 356 F.2d 813, 820 (D.C. Cir. 1966) ("the issue of criticality … is inter-related with the issue of obviousness"). "Where the claimed advance over the prior art lies in focusing on the special attributes of a sub-genus that is part of a genus already broadly disclosed, there is ***particular need*** to show that the limitation is critical." *Id.* (emphasis added). "The criticality issue

turns on whether the claim is an advance over products and processes previously known and sufficiently distinctive to warrant a patent monopoly." *Id.* "There must be a distinctive physical … discovery. A mere location of optimum conditions and characteristics, however useful, is said not to warrant a patent monopoly." *Id.*

For example, the claim at issue in *ClearValue, Inc. v. Pearl River Polymers, Inc.*, 668 F.3d 1340, 1344 (Fed. Cir. 2012), *cert. denied*, 133 S. Ct. 615 (U.S. 2012), was directed to a "process for clarification of water of raw alkalinity less than or equal to 50 ppm." The prior art disclosed a process for "clarifying water with alkalinity of 150 ppm or less." *Id.* The patentee argued, and the jury found, the patent was valid because the genus of 150 ppm or less was "too broad to anticipate the 50 ppm limitation." *Id.* The patentee filed a motion for judgment as a matter of law, which the district court denied. The Federal Circuit reversed, awarding the defendant judgment on invalidity, because there was no evidence "that the 50 ppm limitation … [was] 'critical,' or that the claimed method work[ed] differently at different points within the prior art range of 150 ppm or less." *Id.* at 1345.

The same is true here. There is no evidence that the purported invention of claim 19 works any differently on an OGV than it would on a boat. To the contrary, the '710 Patent specification specifically discloses that the emission control system need not be used **only** on an OGV, but also for "control of emissions from land based equipment" (*i.e.*, not an OGV). (Ex. 1, 7:8-11.) And, as shown above, the '343 Patent (cited on the face of the '710 Patent) makes clear that claim 19 can be scaled up or down for different size vessels. (*See supra*.) The reference to an OGV and the size of the vessel are thus not critical to claim 19 or the '710 Patent. (*See* Princevac Direct Test. Decl. ¶¶ 57-58.) For this reason as well, claim 19 is invalid and judgment should issue in CAEMI's favor.

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V. CONCLUSION

For the foregoing reasons, and as will be shown at trial, claim 19 of the '710 Patent is anticipated by, and obvious over, Teboul. After trial, judgment should issue in CAEMI's favor declaring the claim 19 invalid.

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